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What is claimed is:

1. A surveying system for generating a computer model of a physical site, the system comprising:

a survey measurement device for determining a location of a selected feature  
5 relative to the survey measurement device; and

a computer-aided drafting (CAD) module for modeling the physical site, the CAD module, including a CAD application program installed on a computer for receiving from the survey measurement device data related to the location of the selected feature, and for creating a corresponding object in the computer model, and  
10 a bi-directional communication interface between the CAD application program and the survey measurement device for communicating commands from the CAD application program to the survey measurement device and for communicating the data related to the location of the selected feature from the survey measurement device to the CAD application program.

15 2. The surveying system of claim 1, wherein the computer includes an interactive display for enabling the operator to interact with the model at the survey site and enabling the operator to control the survey measurement device by use of a graphical user interface associated with the CAD module.

20 3. The surveying system of claim 1, wherein the bi-directional communication interface includes a wireless link.

4. The surveying system of claim 1, wherein the bi-directional communication interface includes a cable link.

5. The surveying system of claim 1, wherein the survey measurement device comprises a total station.

25 6. The surveying system of claim 1, wherein the survey measurement device comprises a hand held laser measurement device.

7. The surveying system of claim 1, wherein the survey measurement device comprises a global positioning system based device.
8. The surveying system of claim 1, wherein the survey measurement device comprises a high definition scanner.
- 5 9. The surveying system of claim 1, wherein the location of the selected feature and the corresponding object are represented in two dimensions.
10. The surveying system of claim 1, wherein the location of the selected feature and the corresponding object are represented in three dimensions.
11. A computer-aided drafting (CAD) module for a surveying system, the  
10 surveying system having a survey measurement device connected to a computer running the CAD module, the CAD module comprising:  
a CAD application program for creating a model of a site including objects representing features of the site; and  
a bi-directional communication interface for enabling the CAD application  
15 program to initiate measurement of a location of a feature at the site by the survey measurement device, and for enabling the survey measurement device to communicate data related to the location of the feature to the CAD application program.
12. The CAD module of claim 11, wherein the CAD application program includes  
20 means for assigning attributes to the objects.
13. The CAD module of claim 12, wherein the CAD application program includes a graphical user interface (GUI), and the bi-directional communication interface includes means responsive to operator interaction with the GUI.
14. The CAD module of claim 13, wherein the GUI includes means for selection of  
25 objects in the model by an operator.

15. The CAD module of claim 13, wherein the CAD application program includes means for creating layered models of the site.
16. The CAD module of claim 15, wherein operation of the selection means determines attributes of an object in accordance with predetermined layer and object properties.
17. The CAD module of claim 11, further including means for calculating error in measured feature locations.
18. The CAD module of claim 17, further including means for distributing the error amongst a plurality of measured feature locations.
19. A surveying method using a survey measurement device connected to a CAD module, the method comprising steps of:
- sending a trigger command from the CAD module to the survey measurement device to initiate measurement of a location of a feature at a survey site by the survey measurement device;
  - receiving from the survey measurement device the location of the feature; and
  - establishing, at a corresponding location in a model of the site, an object corresponding to the feature.
20. The surveying method of claim 19, wherein the survey measurement device is robotically-controlled, and further including a step of sending a positioning command from the CAD module to the survey measurement device to cause the survey measurement device to be directed at the feature.
21. The surveying method of claim 20, wherein sending the positioning command is initiated by operator interaction with a graphical user interface associated with the CAD module.
22. The surveying method of claim 19, further including associating attributes with the object.

23. The surveying method of claim 19, further including labelling the object.
24. The surveying method of claim 22, wherein labelling the object includes selection of an object identifier from a drop-down menu in a graphical user interface.
25. The surveying method of claim 19, wherein sending the command comprises  
5 using a graphical user interface to receive input from an operator and sending a corresponding command to the survey measurement device based on the received input.
26. The surveying method of claim 19, further including a step of determining an error in the measurement of the location of a feature.
- 10 27. The surveying method of claim 19, further including a step of determining a closure error.
28. The surveying method of claim 19, further including a step of distributing a determined error over all measured feature locations.
29. A method of marking features at a site corresponding to objects in a computer  
15 model, the method comprising:  
    selecting, through interaction with a graphical user interface associated with a computer-aided drafting (CAD) module, an object in a computer model of the site pre-loaded into the CAD module, the object corresponding to a feature at the site;  
    transmitting real world coordinates of the feature from the CAD module to a  
20 survey measurement device;  
    commanding the survey measurement device to indicate a location of the feature; and  
    marking the location.